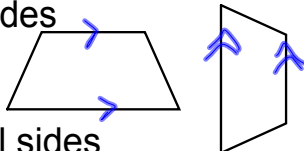


6.5 Trapezoids

Trapezoid--quadrilateral with exactly one pair of parallel sides

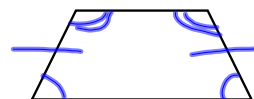
bases--parallel sides



legs--non-parallel sides

The angles are referred to as base angles.

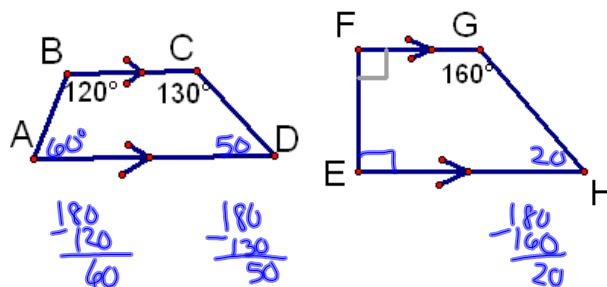
Isosceles Trapezoid--trapezoid with congruent legs



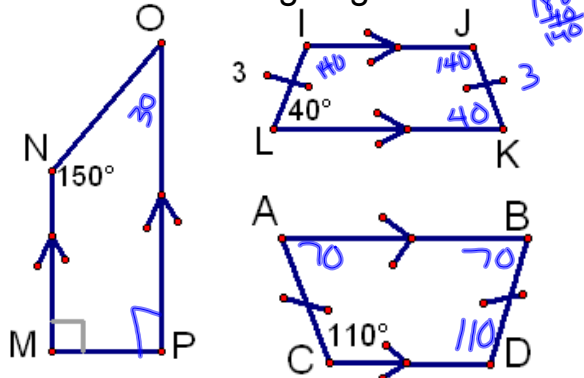
Theorem 6.12--In an isosceles trapezoid, the base angles are congruent

Theorem 6.13--In a trapezoid, if the base angles are congruent, then the trapezoid is isosceles.

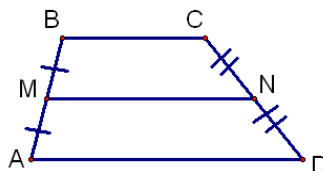
Find the missing angles.



Find the missing angles.

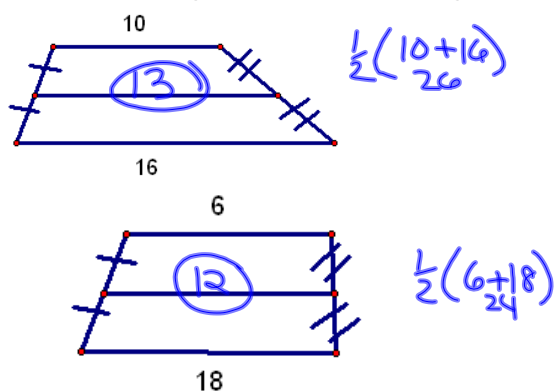


Midsegment--connects the midpoints of the legs

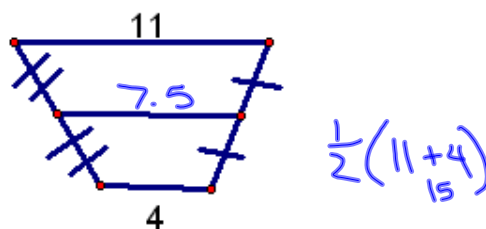


$$MN = \frac{1}{2}(BC + AD)$$

Find the length of the midsegment.

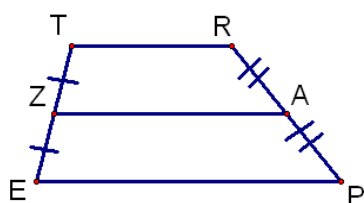


Find the length of the midsegment.



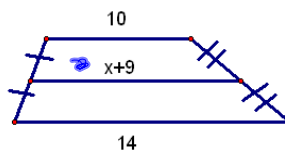
(leg, base, base angle, or midsegment)

What is?

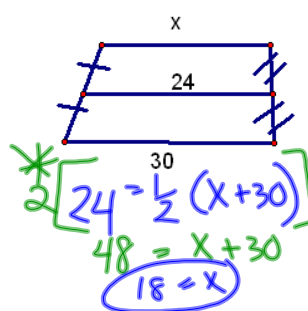


\overline{TE} leg
 \overline{TR} base
 $\angle P$ base angle
 \overline{AZ} midsegment

Solve for x given the following midsegments.

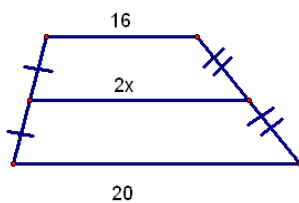


$$\begin{aligned}
 x+9 &= \frac{1}{2}(10+14) \\
 x+9 &= 12 \\
 x &= 3
 \end{aligned}$$

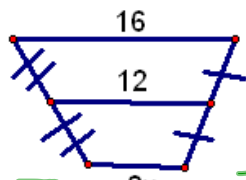


$$\begin{aligned}
 24 &= \frac{1}{2}(x+30) \\
 48 &= x+30 \\
 18 &= x
 \end{aligned}$$

Solve for x given the following midsegments.



$$\begin{aligned}
 2x &= \frac{1}{2}(16+20) \\
 2x &= 18 \\
 x &= 9
 \end{aligned}$$



$$\begin{aligned}
 12 &= \frac{1}{2}(16+2x) \\
 24 &= 16+2x \\
 8 &= 2x \\
 4 &= x
 \end{aligned}$$

HW

p334-335

3-15, 18-25